

Preliminary DRAFT Issaquah Creek Chinook Population - Tier I - Initial Habitat Project List
Includes Potential Restoration and Protection Projects by Reach.
Lower Issaquah Creek Reaches 1-10

Basinwide Recommendations: Protection

Project #	Descriptions
I601	Stream Buffer Protection: Work with private property owners throughout watershed to develop PBRS or easements to increase stream buffer protection.
I602	Public Land Consolidation: Review publicly owned land with commercial potential and consider opportunities for selling/trading for land with higher ecological value to increase protection of riparian corridor along Issaquah Creek and its tributaries.
I603	Forest Cover Protection: Protect existing natural flow regime in the headwaters areas of Mainstem Issaquah Creek and its tributaries.

Basinwide Recommendations: Restoration

Project #	Descriptions
I604	Riparian Restoration: Work with private landowners to remove exotic plant species and improve riparian cover
I605	Water Quality Management: Coordinate with Dept. of Ecology and others to identify on-site sewer failures, particularly in riparian areas.
I606	Lawn Care Water Quality Management: Continue to work with private landowners to reduce water quality inputs associated with lawn care practices.
I607	City of Issaquah Floodway Restoration Program: Continue City of Issaquah's floodway restoration program in reaches 2, 3, 4, 5 and 7, plus the North Fork and East Fork reaches. Many small parcels along Issaquah Creek have been identified for acquisition and have owner interest in selling.
I608	Issaquah Creek Habitat Restoration Program: The City of Issaquah currently conducts many small-site restoration activities on City-owned parcels along reaches 2, 3, 4, 5 and 7, plus the North Fork and East Fork reaches in the City of Issaquah. Program includes riparian vegetation restoration, bank de-hardening, floodway improvement, and LWD placement. (\$120K/yr)
I609	Restoration Site Maintenance: There are currently 180 acres of restored riparian and upland lands that the City of Issaquah maintains and monitors for up to five years or as permits specify. Sites are located throughout reaches 2, 3, 4, 5 and 7, plus the North Fork and East Fork reaches in the City of Issaquah. Funding is needed for continuing maintenance in the long-term in the face of competing priorities and budget shortfalls. (\$75K/yr)
I610	Protect/Restore Instream Flows to North Fork and Issaquah Creek

Reach 1: Issaquah Creek from mouth to confluence with NF Issaquah Creek**Restoration****Technical Hypothesis:**

Project #	Reach #	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M, L	Feasibil. H, M, L
I201	1	Issaquah 8	I-90 Stormwater Improvements: I-90 has few water-quality treatment facilities or water detention/detention facilities for the hundreds of acres of impervious surfaces that flow directly into the East Fork, North Fork, and mainstem of Issaquah Creek. Work with Washington Department of Ecology and Washington State Department of Transportation to provide detention, water quality improvements and spill containment facilities. The risk of a major contaminant spill caused by highway accident is probably the greatest concern.		Requires participation by WSDOT who controls limited access right-of-way. Future TMDL/NPDES permit implications may help address some of these concerns. City of Issaquah estimates there are 85 acres of impervious surfaces in the I-90 right of way in the City alone.		
I202	1	new	Sammamish State Park Restoration: Vast (50 acres within shoreline buffer) and largely undisturbed area within State Park at mouth of Issaquah Creek. Former farmland with somewhat poor habitat conditions: incised channel, extensive non-native vegetation. Potential projects include stream, riparian, floodplain, lakeshore and wetland restoration on Issaquah Creek, Tibbetts Creek, and along Lake Sammamish lakeshore. Good connectivity to adjacent restoration projects upstream in City.		State Parks will be conducting restoration assessment starting in 2004, in support of Park redevelopment program. Planning has not yet begun. WSDOT may be in need of a mitigation site in the area due to I-405 improvements, and could be a source of funding. There are large degraded wetlands in reach that could be restored/reconnected to creek. However, wetland restoration may not benefit Chinook - could increase bass predation on Chinook. Channel is quite active in this area, and any park development should be conducted so as to allow for continued meandering. Some work could be done to reduce incision of creek and reconnect it with the floodplain in the uppermost portion of the site.		
I203	1	new	Predator Control: Explore predator control, particularly bass, in backwater reaches of Issaquah Creek.		The area is currently closed for fishing.		

Protection

Technical Hypothesis: Pool habitats that provide cover and refuge for critical life stages should be protected and maintained, starting with the protection of existing off-channel and pool areas.

Project #	Reach #	Exist. Prot. Priority (Y/N)	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M, L	Feasibil. H, M, L
I204	1		new	Sammamish State Park Development Protection: Several proposals exist pertaining to planned park development options, including marina development with gas facilities. An effort should be made to ensure that the final park development plan adequately protects floodplain/riparian processes.			H	H

Reach 2: Issaquah Creek from confluence with NF Issaquah Creek to I-90 Bridge Restoration

Technical Hypothesis:

Project #	Reach #	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M, L	Feasibil. H, M, L
I205	2	Issaquah 8	I-90 Stormwater Improvements: I-90 has few water-quality treatment facilities or water detention/detention facilities for the hundreds of acres of impervious surfaces that flow directly into the East Fork, North Fork, and mainstem of Issaquah Creek. Work with Washington Department of Ecology and Washington State Department of Transportation to provide detention, water quality improvements and spill containment facilities. The risk of a major contaminant spill caused by highway accident is probably the greatest concern.		Requires participation by WSDOT who controls limited access right-of-way. Future TMDL/NPDES permit implications may help address some of these concerns. City of Issaquah estimates there are 85 acres of impervious surfaces in the I-90 right of way in the City alone.		
I206	2	new	Bush Lane Properties: 12.5 acres of Issaquah Creek and North Fork Issaquah Creek floodplain, located between confluence of these two stream and Darst Park (just north of I-90). Stream, riparian, and floodplain restoration on 1,200 feet of Issaquah Creek east bank. Project could include stream and riparian restoration, side channel creation, and wetland restoration. Existing habitat is poor due to residential development. Stream/buffer enhancements can be combined with other public use of upland area of site, such as active recreation.	\$1.1m	Currently under private ownership, but is for sale. Property spans from Issaquah Creek to the North Fork. Issaquah Creek - Pickering Reach is located on opposite (west) bank, and a previous City restoration site is located just downstream. Much of the property is located in the 100 yr. Floodplain, and is therefore not at high risk for development. Site includes hardened banks and a confined channel that should be restored/revegetated. There is no LWD in this reach. It may also be possible to restore wetlands on site which could facilitate recharge of de-watered section of the North Fork. This is both a potential Corps project as well as a potential WSDOT mitigation site.		
I207	2	new	Issaquah Creek – Pickering Reach: Located between SE 56th Street and I-90. Stream restoration along 1,800 feet of west bank Issaquah Creek within 200-foot shoreline setback. Restoration could include removal of hardened banks, floodplain restoration, side channels, riparian enhancements. Extension of restoration work conducted by City in 1998.		Private property, but City has utility easement that allows restoration work.		

Protection

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Project #	Reach #	Exist. Prot. Priority (Y/N)	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M, L	Feasibil. H, M, L
I208	2		new	Bush Lane Properties: 12.5 acres of floodplain lying between Issaquah Creek and North Fork Issaquah Creek are currently for sale. Includes 1,200 feet of east bank of Issaquah Creek and 900 feet of North Fork Issaquah Creek. Site currently has degraded habitat (older residential area) that offers excellent potential for restoration. Adjacent to City-controlled 200-foot buffer on west bank of Issaquah Creek, and Darst Park on the south that extends to I-90 on Issaquah Creek and 62nd Street (East Lake Sammamish Trail) on North Fork.		Property is for sale only as the entire 12.5-acre site. Currently under private ownership, but is for sale. Property spans from Issaquah Creek to the North Fork. Property is adjacent to City of Issaquah property. Much of the property is located in the 100 yr. floodplain, and is therefore not at high risk for development. This is both a potential Corps project as well as a potential WSDOT mitigation site (\$1.1m). Acquisition will be expensive.	H	M

Reach 3: Issaquah Creek from to I-90 Bridge to Juniper St (City of Issaquah)**Restoration**

Technical Hypothesis:

Project #	Reach #	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M, L	Feasibil. H, M, L
I209	3	new	Streamside Property Downstream of Juniper St.: Stream, riparian, wetland and floodplain restoration at undeveloped 5-acre parcel. Includes 370 feet of Issaquah Creek west bank just downstream of Juniper Street. Adjacent to residential medium density development.		Private land would require acquisition prior to restoration. Property is partially in the floodplain, but much of it is also above. There is a need for pools in this area. Restoration should also include reconnecting the creek to the floodplain.		

Protection

Technical Hypothesis: Pool habitats that provide cover and refuge for critical life stages should be protected and maintained, starting with the protection of existing off-channel and pool areas.

Project #	Reach #	Exist. Prot. Priority (Y/N)	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M, L	Feasibil. H, M, L
I210	3		new	Issaquah Creek – Streamside Property Downstream of Juniper St.: Acquisition of property of restoration project above.		Acquisition of one of the few remaining large undeveloped parcels (5 acres) on lower Issaquah Creek. Site currently has degraded habitat that offers excellent potential for restoration. Owner has not been contacted to determine interest for selling property.	M	M

Reach 4: Issaquah Creek from Juniper St (City of Issaquah) to confluence with EF Issaquah Creek**Restoration****Technical Hypothesis:**

Project #	Reach #	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M, L	Feasibil. H, M, L
I211	4	new	Issaquah Creek Park: Located in vicinity of confluence of Issaquah Creek and East Fork Issaquah Creek. Current City-owned land in this passive park includes Johnson and Bebee parcels. Site currently has degraded stream and riparian habitat that offers excellent potential for restoration.		Recent park acquisition with some restoration on the West side of creek, but none yet on the East side of creek.		
I212	4	new	Streamside Property Upstream of Juniper St. Stream: Riparian, wetland and floodplain restoration on 550 feet of Issaquah Creek just upstream of Juniper Street. Adjacent to residential medium density development.		Private land would require acquisition prior to restoration. Potential WSDOT mitigation funding available \$600k.		
I213	4	new	Anderson Property: Located at confluence of Issaquah Creek and East Fork Issaquah Creek. Two large parcels (3.9 acres total) on stream, located across from current City open space parcel. Site currently has degraded stream and riparian habitat that offers excellent potential for restoration. Removal of bank hardening on Anderson property would enhance stream functions.				

Protection

Technical Hypothesis: Pool habitats that provide cover and refuge for critical life stages should be protected and maintained, starting with the protection of existing off-channel and pool areas.

Project #	Reach #	Exist. Prot. Priority (Y/N)	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M, L	Feasibil. H, M, L
I214	4		new	Streamside Property Upstream of Juniper St.: Acquisition of one of the few remaining large undeveloped parcels (2 acres) on lower Issaquah Creek. Site currently has degraded habitat that offers excellent potential for restoration.		Owner has not been contacted to determine interest for selling property.	M	M
I215	4		new	Anderson Property: Located at confluence of Issaquah Creek and East Fork Issaquah Creek. City has had discussions with the property owner about acquisition of the two parcels, which would add to Issaquah Creek Park.			H	H

Reach 5: Issaquah Creek from confluence with EF Issaquah Creek to Fish Hatchery Weir**Restoration****Technical Hypothesis:**

Project #	Reach #	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M, L	Feasibil. H, M, L
I216	5	new	Relocation of City Parks Maintenance Facility and Restoration of Site: Property is at confluence of Issaquah Creek and East Fork Issaquah Creek, adjacent to Issaquah Creek Park. Relocation of the maintenance facility and restoration of the stream and buffer offers excellent opportunity to restoring important sections of these two streams and is consistent with City of Issaquah parks planning goals.		Suitable site for maintenance facility must be identified and acquired prior to restoration. Site is location of original Issaquah sewage treatment plant, the debris of which may be buried at the site.		
I217	5	Issaquah 1	Issaquah Salmon Hatchery Management: Work with Issaquah Salmon Hatchery to evaluate and amend its management protocol on passing species of salmon over the hatchery weir.		This is a hatchery management issue that is currently under evaluation by Hatchery Science Review Group and Co-Managers in consultation with agencies		

Protection

Technical Hypothesis: Pool habitat and the habitat features that support the creation of pool habitat (LWD, riparian function, and channel connectivity) should be maintained of existing off-channel and pool areas.

Project #	Reach #	Exist. Prot. Priority (Y/N)	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M, L	Feasibil. H, M, L
I218	5			No projects identified at this time				

Reach 6: Issaquah Creek from Fish Hatchery Weir to Hatchery Water Intake Fish Ladder**Restoration****Technical Hypothesis:**

Project #	Reach #	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M, L	Feasibil. H, M, L
I219	6	new	Wildwood Blvd Trail: Located Between Wildwood Trail and Issaquah Creek along Wildwood Blvd Trail to hatchery intake dam. Private and City ownership. Mature shade canopy and native vegetation being lost due to English Ivy and other weed infestation. Small scale restoration to retain existing shade canopy through riparian vegetation enhancements on top of slope of west bank.				

I220	6	new	“Guano Acres”: Located on Johnson parcel on South Front Street, just south of Newport Way. Immediately downstream of fish hatchery intake dam. Considerable wetlands onsite impacted by invasive vegetation. This 600-foot reach of Issaquah Creek offers excellent floodplain restoration, wetland enhancement, side channels, riparian enhancement potential.		Private property will require acquisition.		
I221	6	Issaquah 1	Issaquah Salmon Hatchery Intake Dam: Design and implement improvements for fish passage. Corps of Engineers is currently working with WDFW on Section 206 project to make fish passage improvements.		Corps of Engineers project is underway and scheduled for construction in 2005, pending availability of Federal funds.		

Protection

Technical Hypothesis: Pool habitat and the habitat features that support the creation of pool habitat (LWD, riparian function, and channel connectivity) should be maintained of existing off-channel and pool areas.

Project #	Reach #	Exist. Prot. Priority (Y/N)	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M, L	Feasibil. H, M, L
I222	6		new	Wildwood Blvd Trail: Located Between Wildwood Trail and Issaquah Creek along Wildwood Blvd Trail to hatchery intake dam. Project would consolidate City ownership of property along west bank using boundary line adjustments.		There are a lot of property owners.	H	M
I223	6		new	“Guano Acres”: Acquisition of one of the few remaining large undeveloped parcels (8 acres) on lower Issaquah Creek. Site currently has degraded habitat that offers excellent potential for restoration.		Owner has expressed interest in selling to City, but City funding is not available. Some KC CFT money may be available.	H	H

Reach 7: Issaquah Creek from Hatchery Water Intake Fish Ladder to confluence with Trib 0199

Restoration

Technical Hypothesis:

Project #	Reach #	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M, L	Feasibil. H, M, L
I224	7	new	South Issaquah Creek Greenway: Located in Sycamore neighborhood downstream of Sycamore Drive bridge in large complex (35 acres) of City-owned open space, plus adjacent properties that may be acquired by City. Floodplain restoration, wetland enhancement, side channels, riparian enhancements along 3,500 feet of stream reach. Some improvements have been made (Issaquah Creek Habitat Enhancement - Sycamore site) but larger scale floodplain restoration is appropriate because stream was straightened and channelized in the 1960's for a development, significantly diminishing habitat value.		Restoration on this public land has support of City. Additional adjacent private properties would need to be acquired.		

Protection

Technical Hypothesis: Pool habitats that provide cover and refuge for critical life stages should be protected and maintained, starting with the protection of existing off-channel and pool areas. Pool habitat and the habitat features that support the creation of pool habitat (LWD, riparian function, and channel connectivity) should be maintained.

Project #	Reach #	Exist. Prot. Priority (Y/N)	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M, L	Feasibil. H, M, L
I225	7		new	Additional South Issaquah Creek Greenway Acquisitions: Large parcels adjacent to the South Issaquah Creek Greenway offer additional potential for open space preservation, riparian and wetland enhancements, instream restoration, and side channels. Includes Fowler Site , located on 320 feet of Issaquah Creek between Fish Hatchery intake dam and South Issaquah Creek Greenway; Mohl Property , located immediately downstream of Sycamore Drive on west bank; and other properties.	\$450k or more per multi-acre property.	Property owners have expressed interest in selling to City.	H	H

Reach 8: Issaquah Creek from confluence with Trib 0199 to power line crossing near city boundary**Restoration**

Technical Hypothesis:

Project #	Reach #	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M, L	Feasibil. H, M, L
I226	8	Issaquah 4	Squak Valley Park Restoration: The U.S. Army Corps of Engineers and the City of Issaquah working on a Section 206 project to create off-channel habitat for salmon rearing and refuge along Issaquah Creek, in the area upstream of the Sycamore neighborhood. Site is approximately 7 acres; design consists of removing portions of an existing levee to allow high flows into two side channel, providing large woody debris, and planting riparian vegetation.	\$1.6m (Corps?)	Corps of Engineers project scheduled for construction in 2005, pending availability of Federal funds.		
I227	8	new	Squak Valley Park South: Located inside City at southern city limits. Lower portion of City-owned parcel is 4 acres of undevelopable wetlands suitable for floodplain restoration, wetland enhancement, side channels, riparian enhancements.		Restoration on this public land has support of City.		
I228	8	new	Explore Private Property Restoration: Explore opportunities for restoration at two properties with large floodplains set well below their homes. Properties are between the publicly owned sections of Squak Valley Park. Acquisition may not be required, as easements may be appropriate.		One owner has expressed interest in granting easement for restoration (and for trail corridor between two park sites), but the other has not. The long-term interest of the City is to acquire properties to link two park sites.		

Protection

Technical Hypothesis: Pool habitat and the habitat features that support the creation of pool habitat (LWD, riparian function, and channel connectivity) should be maintained.

Project #	Reach #	Exist. Prot. Priority (Y/N)	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M, L	Feasibil. H, M, L
I229	8		new	Explore Easement on Private Property: Seek conservation easements to protect and allow future restoration of two properties with large floodplains set well below their homes. Properties are between the publicly owned sections of Squak Valley Park. Acquisition may not be required, as easements may be appropriate.			M	H

Reach 9: Issaquah Creek from power line crossing near city boundary to confluence with 15 Mile Creek**Restoration**

Technical Hypothesis:

Project #	Reach #	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M, L	Feasibil. H, M, L
I230	9	Issaquah 6a, 6b & 6d	Potential Sites for Removal of Bank Hardening: Confluence of Issaquah Creek and Fifteenmile Creek, and between RM 7.4 and 7.7.		Sites include expensive homes that would need to be protected. This includes several sites that were identified in the NTAA as having potential for removing bank hardening.		
I231	9	new	Glassen Creek: Explore opportunities for removal of bank hardening to reconnect creek and floodplain. Need to maintain stable bank due to flooding concerns. Good site for bio-engineering/low impact stabilization techniques.		Some plantings done at this site in the past, but now very overgrown by blackberry. Check if is just a tributary project or an Issaquah floodplain project. May not have chinook benefit.		
I232	9	new	Work with Private Property Owners to Restore Habitat: This is a good reach to work with property owners to restore habitat including riparian restoration, low impact bank stabilization (bioengineering with LWD), removal of bank hardening and implementing best management practices to reduce water quality impacts.				

Protection

Technical Hypothesis: Pool habitat and the habitat features that support the creation of pool habitat (LWD, riparian function, and channel connectivity) should be maintained.

Project #	Reach #	Exist. Prot. Priority (Y/N)	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M, L	Feasibil. H, M, L
I233	9		new	Stream Buffer Protection: Work with private property owners specifically in this reach to develop PBRS or easement to increase stream buffer protection.			M	M/L

Reach 10: Issaquah Creek from confluence with 15 Mile Creek to confluence with McDonald Creek**Restoration****Technical Hypothesis:**

Project #	Reach #	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M, L	Feasibil. H, M, L
I234	10	Issaquah 6f	Potential Sites for Removal of Bank Hardening: Issaquah Creek confluence with McDonald Creek.		Site includes several expensive homes that would need to be protected.		
I235	10	new	Cedar Hills Water Quality Inputs: Examine water quality data to ensure that landfill is not impacting water quality in this reach and McDonald Creek.		Historically there was a problem with leaching into this reach. Changes at the landfill may have addressed this problem.		
I236	10	new	Work with Private Property Owners to Restore Habitat: This is a good reach to work with property owners to restore habitat including riparian restoration, low impact bank stabilization (bioengineering with LWD), removal of bank hardening and implementing best management practices to reduce water quality impacts.				
I237	10	new	Water Quality Management: Coordinate with Dept. of Ecology and others to identify on-site sewer failures, particularly in riparian areas.		Although fecal coliform does not appear to be a direct threat to Chinook, household chemicals, heavy metals, and high temps associated with failed septs may be problematic for fish.		

Protection

Technical Hypothesis: Pool habitat and the habitat features that support the creation of pool habitat (LWD, riparian function, and channel connectivity) should be maintained.

Project #	Reach #	Exist. Prot. Priority (Y/N)	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M, L	Feasibil. H, M, L
I238	10		new	Stream Buffer Protection: Work with private property owners specifically in this reach to develop PBRS or easement to increase stream buffer protection.			M	L